

PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

REC'D 12 SEP 2005

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Applicant's or agent's file reference H710410/62-1 WO-JJJ	FOR FURTHER ACTION		See Form PCT/IPEA416																
International application No. PCT/EP2004/002144	International filing date (<i>day/month/year</i>) 02.03.2004	Priority date (<i>day/month/year</i>) 03.03.2003																	
International Patent Classification (IPC) or national classification and IPC F16D69/02																			
Applicant MESSIER-BUGATTI et al.																			
<ol style="list-style-type: none"> 1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36. 2. This REPORT consists of a total of 5 sheets, including this cover sheet. 3. This report is also accompanied by ANNEXES, comprising: <ol style="list-style-type: none"> a. <input checked="" type="checkbox"/> <i>sent to the applicant and to the International Bureau</i>) a total of 1 sheets, as follows: <ul style="list-style-type: none"> <input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions). <input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box. b. <input type="checkbox"/> (<i>sent to the International Bureau only</i>) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions). 																			
<ol style="list-style-type: none"> 4. This report contains indications relating to the following items: <table style="width: 100%; border: none;"> <tr> <td style="width: 10%;"><input checked="" type="checkbox"/> Box No. I</td> <td>Basis of the opinion</td> </tr> <tr> <td><input type="checkbox"/> Box No. II</td> <td>Priority</td> </tr> <tr> <td><input type="checkbox"/> Box No. III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td><input type="checkbox"/> Box No. IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td><input checked="" type="checkbox"/> Box No. V</td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td><input type="checkbox"/> Box No. VI</td> <td>Certain documents cited</td> </tr> <tr> <td><input type="checkbox"/> Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td><input checked="" type="checkbox"/> Box No. VIII</td> <td>Certain observations on the international application</td> </tr> </table> 				<input checked="" type="checkbox"/> Box No. I	Basis of the opinion	<input type="checkbox"/> Box No. II	Priority	<input type="checkbox"/> Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	<input type="checkbox"/> Box No. IV	Lack of unity of invention	<input checked="" type="checkbox"/> Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	<input type="checkbox"/> Box No. VI	Certain documents cited	<input type="checkbox"/> Box No. VII	Certain defects in the international application	<input checked="" type="checkbox"/> Box No. VIII	Certain observations on the international application
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Date of submission of the demand 21.12.2004		Date of completion of this report 09.09.2005																	
Name and mailing address of the international preliminary examining authority: <div style="display: flex; align-items: center;"> <div> European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465 </div> </div>		Authorized Officer Lesniak, P Telephone No. +49 89 2399-2111																	



**INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY**

International application No.
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Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language , which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4)
 - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

Description, Pages

1-10 as originally filed

Claims, Numbers

7-22 as originally filed

1-6 received on 21.12.2004 with letter of 17.12.2004

Drawings, Sheets

1/2, 2/2 as originally filed

☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing

3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing *(specify)*:
 - ☐ any table(s) related to sequence listing *(specify)*:
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing *(specify)*:
 - ☐ any table(s) related to sequence listing *(specify)*:

* If item 4 applies, some or all of these sheets may be marked "superseded."

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Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	2-22
	No: Claims	1
Inventive step (IS)	Yes: Claims	11-22
	No: Claims	2-10
Industrial applicability (IA)	Yes: Claims	1-22
	No: Claims	

2. Citations and explanations (Rule 70.7):

see separate sheet

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

Re Item V

Claim 1 has been amended by the addition of the expression "for communicating a radially interior side of the member with a radially exterior side of the member". However the inclusion of this expression is not sufficient to distinguish the claimed shim member from the swirl plates disclosed in GB- 419,949-A (Document D1).

In particular, D1 Figure 2 discloses two embodiments of swirl plates with radially extending passages 14,20. These passages can "at least partly" define a passage for communicating a radially interior side of the member with a radially exterior side of the member. Whether they do so depends upon the arrangement of the swirl plate with respect to other parts of the apparatus with which they are used.

Therefore claim 1 still lacks novelty over D1.

The features of claims 2 to 10 appear to be commonplace and would not in combination with claim 1 justify the existence of an inventive step.

In respect of claims 11 to 22 D1 is not considered to relate to close prior art as it is from a different technical field. There is no suggestion to replace the alumina spacers used previously in the methods similar to claim 11 with metal spacers. The advantages presented in the description, namely a reduction of loading time and reduced deformation of the products, are plausible and an inventive step can be accorded.

The subject matter of all the claims is doubtlessly industrially applicable in the formation of brake blocks, for example.

Re Item VIII

In respect of claim 1 the expression "at least partly defines a plurality of radially extending gas flow paths for communicating a radially interior side of the member with a radially exterior side of the member" is unclear since it relates to the shim only when it is in use or mounted in an apparatus. For example, even the shim specifically disclosed in Figures 3A and 3B of the application would not satisfy this condition if it were sandwiched between the

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brake discs with an annular seal interposed around the outer periphery of the shim.

Claims 6, 7, 16 and 17 are rendered unclear by the use of the term about to obscure the end values of ranges.

Claims 7, 9, 17 and 19 are obscured by the use of the term "effective thickness", which is undefined.

ARTICLE 19 – REPLACEMENT SHEET**WHAT IS CLAIMED IS:**

1. An annular shim member having first and second opposing surfaces and a plurality of openings formed therethrough,

wherein the member is made from a metallic material and at least partly defines a plurality of radially extending gas flow paths for communicating a radially interior side of the member with a radially exterior side of the member.

2. The member according to claim 1, wherein the metallic material is a bare metallic material.

3. The member according to claim 1, wherein the metallic material is a wire mesh.

4. The member according to claim 3, wherein the metallic material is a refractory material.

5. The member according to claim 3, wherein the metallic member comprises one or more of stainless steel, inconel alloy, titanium, molybdenum, tantalum, and tungsten.

6. The member according to claim 3, wherein the wire mesh has an open mesh area of about 20% to about 80%.